

Senior Electrical Engineer, Caltrans (Supervisor)

California State Personnel Board Specification

- **Schematic Code:** GM35
- **Class Code:** 3002
- **Established:** 02/01/1984
- **Revised:** 04/06/1999
- **Title Changed:** 01/31/1989

Definition

Under general direction, to supervise electrical engineering design, specification preparation, estimating, and inspection work involved in the design, construction, and maintenance of storm drainage pumping plants, water supply systems, sewage lift stations, vehicular tunnels, movable bridges, roadside rests, highway maintenance stations, toll plazas, truck weigh and inspection stations, and other transportation-related facilities; and to do other related work.

Typical Tasks

Plans, organizes, assigns, and checks work; gives instructions and assistance; evaluates performance; makes technical decisions in connection with the supervision of the work of a group of electrical engineers engaged in the design and preparation of plans, specifications, and estimates for transportation-related facilities, including cathodic and stray current protection, outdoor and indoor lighting, power and control systems for movable bridge operation, pumps, vehicular tunnel ventilation, standby engine generators, lifts, air compressors, aids to navigation, and building, heating, ventilating, and air conditioning; writes technical specifications; reviews and supervises the checking of plans, designs, and quantities; supervises and performs field tests for final acceptance of electrical equipment; supervises construction and maintenance inspections; reviews surveys covering installation, repair, and recommended improvements to highway bridge electrical systems; coordinates the work of engineers and contractors; confers with the manufacturers' agents and contractors regarding acceptability of equipment; originates correspondence; and prepares reports.

Minimum Qualifications

Possession of a valid certificate of registration as an Electrical Engineer issued by the California Board of Registration for Professional Engineers. (Candidates who submit proof that they have applied for registration will be admitted to the examination, but must possess a valid certificate of registration before they may be appointed.) and Either I Experience: One year of experience in the California state service performing design, construction, and maintenance work in cathodic

and stray current protection; outdoor and indoor lighting; power and control systems for transportation projects; and building heating, ventilating, and air conditioning as an Associate Electrical Engineer, Caltrans, or a Transportation Engineer (Electrical), Range

D.

Or II

Experience: Five years of professional engineering experience, two years of which shall have been: (1) after obtaining registration as an Electrical Engineer from any state; and (2) in a lead or supervisory capacity in design, construction, and maintenance work in the following fields: cathodic and stray current protection; outdoor and indoor lighting; power and control systems for movable bridge operation, pumps, vehicular tunnel ventilation, standby engine generators, and aids to navigation; and building heating, ventilating, and air conditioning. and

Education: Equivalent to graduation from a college accredited by the Accreditation Board for Engineering and Technology with major work in electrical or electronic engineering or equivalent degree approved by the Council for Private Postsecondary and Vocational Education under the provisions of California Education Code Chapter 3, Part 59, Division 10. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.)

Knowledge and Abilities

Knowledge of: Designing and supervising the preparation of plans, specifications, and estimates for the electrical systems of transportation-related facilities; electrical theory and practice; electrical equipment; power distribution and control systems; various codes and field practices governing the design and installation of electrical equipment; basic occupational safety and health regulations contained in the Title 8 Industrial Relations, Electrical Safety Orders, safety and health policies and procedures as contained in the Department's Injury and Illness Prevention Program, and the supervisor's role in maintaining an effective injury and illness prevention program; materials and maintenance of electrical installations; principles of effective supervision; a manager's/supervisor's responsibility for promoting equal opportunity in hiring and employee development and promotion, and for maintaining a work environment that is free of discrimination and harassment; planning and supervising the work of others.

Ability to: Supervise the preparation of plans, specifications, and estimates for the electrical systems of transportation-related facilities; plan and supervise the work of others; direct or make construction and maintenance inspections; check drawings and specifications; establish and maintain cooperative relations with those contacted in the work; analyze situations and adopt an

effective course of action; dictate correspondence; prepare reports; promote equal opportunity in employment and promotion, and maintain a work environment that is free of discrimination and harassment.